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(12) **UK Patent Application** (19) **GB** (11) **2 295 098** (13) **A**

(43) Date of A Publication 22.05.1996 ✓

(21) Application No 9423350.9

(22) Date of Filing 18.11.1994

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(51) INT CL⁶

A63G 19/20

(52) UK CL (Edition O)

A6M MEE

(56) Documents Cited

None

(58) Field of Search

UK CL (Edition M) A6M MDX MEE MEF MEX

INT CL⁵ A63G 19/00 19/20 31/00 31/02 31/06

Online Database: WPI

(54) **Amusement ride apparatus**

(57) An amusement ride apparatus comprises a base (10) a carriage (12) mounted on the base (10) by means of an arm (20) and turntable arrangement for movement relative to the base about axes A, B, and camera means (14) mounted on the carriage for operation by the rider (48). The apparatus is coin, token or card initiated.

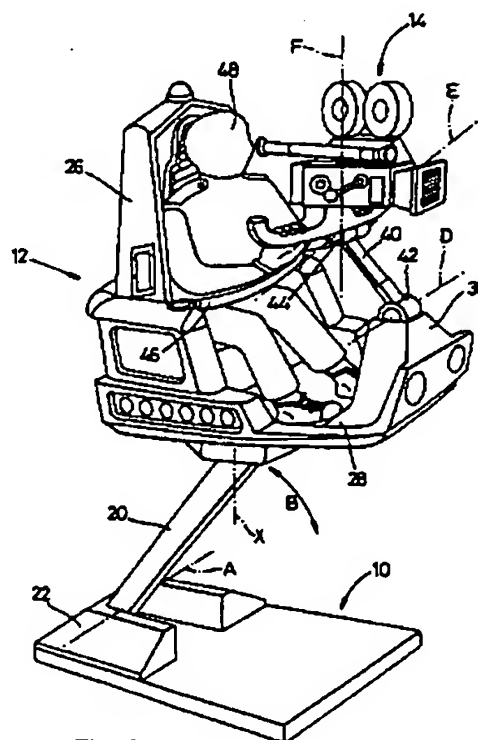


Fig. 2

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Fig.1

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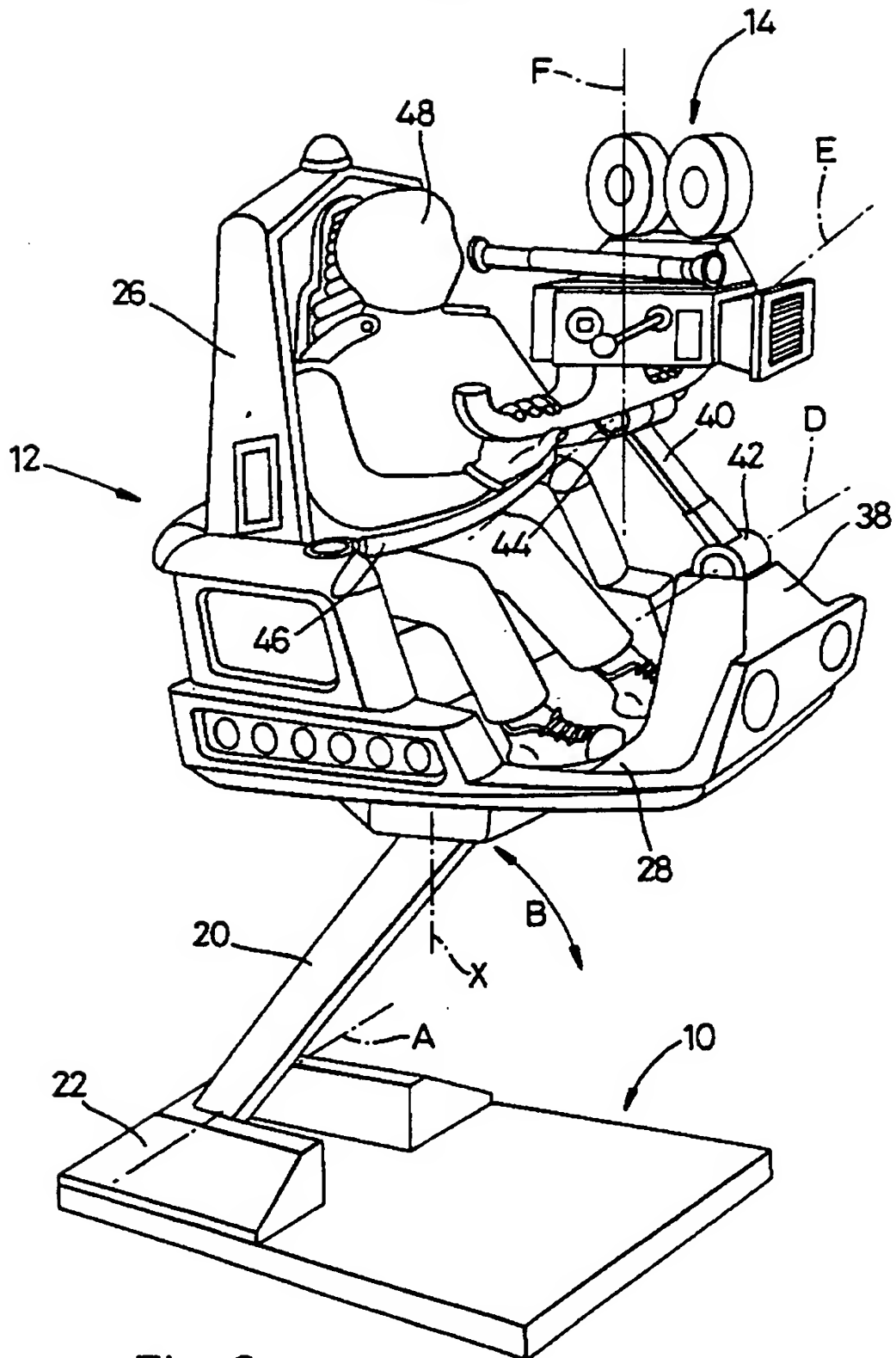


Fig. 2

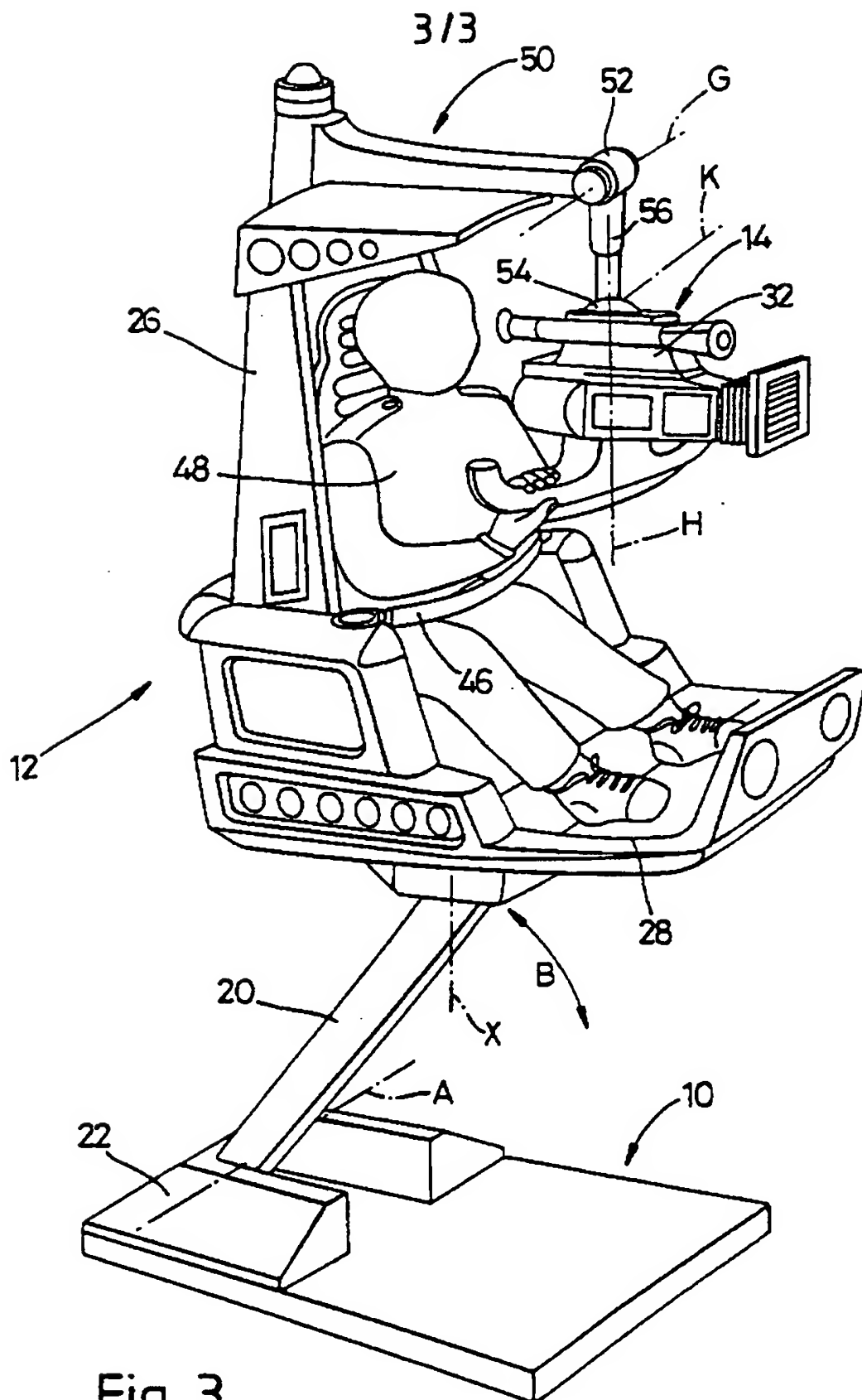


Fig. 3

AMUSEMENT RIDE APPARATUS

This invention relates to an amusement ride apparatus and especially to an amusement ride apparatus the operation of which is controlled by presentation of a coin, token or programmed card.

Amusement ride apparatuses are well known in which operation of the ride is controlled by presentation of a coin, token or programmed card to the apparatus, for example by insertion of a coin in a suitable coin collecting means. Presentation of a suitable coin, token or programmed card to the apparatus purchases a predetermined ride time and, once the coin, token or programmed card has been presented to the apparatus and accepted, switch means, actuated by a button or other suitable actuating apparatus, operated by the rider is effective to set the apparatus in motion. Commonly such rides move the part of the apparatus on which the rider is carried through a pre-programmed series of movements until expiry of the time bought by insertion of coin, token or card.

One of the various objects of the present invention is to provide an improved amusement ride apparatus.

In one aspect the invention may be considered to provide amusement ride apparatus comprising a base, a carriage by which a rider may carried mounted on the base for movement relative to the base, and camera means mounted on the carriage for operation by the rider.

Preferably apparatus in accordance with the invention comprises means to control operation of the apparatus actuated by presentation of a suitable coin, token or programmed card to the apparatus.

In a preferred apparatus in accordance with the invention the carriage is mounted for rotation about an end portion of an arm, an opposite end portion of which is pivotally mounted on the base for movement to raise or lower the carriage. Movement of the carriage is effected by any suitable drive means, for example hydraulic or electrically powered drive means.

Apparatus in accordance with the invention may comprise control means by which movement of the carriage is controlled according to a predetermined sequence. Alternatively, apparatus in accordance with the invention may comprise control means operable by a rider whereby to control movement of the carriage. Apparatus in accordance with the invention may, if desired, comprise means by which control of the carriage may be switched from a predetermined sequence to rider control or vice versa. Control means operable by a rider are conveniently disposed on, or adjacent to, the camera means.

Preferably the camera means of apparatus in accordance with the invention is mounted on the carriage for movement relatively to the carriage. Such movement conveniently may be rotational about an axis projecting upwardly from the carriage and/or pivotal about a horizontal axis which extends generally perpendicularly to the first mentioned axis.

Preferably apparatus in accordance with the invention comprises a seat for the rider. Suitably the apparatus further includes a safety belt to militate against the rider accidentally falling from the seat.

Conveniently, the camera means of apparatus in accordance with the invention comprises a housing which simulates a movie recording camera within which is mounted a camera. The camera itself may,

however be any suitable camera. For example the camera may be a video surveillance camera e.g. displaying an image on a screen visible to the rider, or may be a video recording camera, or a camera which takes a series of still photographs, if desired.

5

Apparatus in accordance with the invention may also comprise a touch screen monitor, suitably mounted in the imitation movie camera housing. The monitor may be arranged to carry out various function, for example to supply information, instructions, visual effects, real time image display, playback features and other facilities which may commonly be provided on a video recording camera.

10

The camera of apparatus in accordance with the invention may be moved about its various axis by a rider to direct the camera toward any scene which the rider may wish to view.

15

Control means of apparatus in accordance with the invention where it is to be controlled by the rider, may conveniently comprise suitably disposed switches, buttons, joy sticks, levers, touch-screen technology or any other appropriate control means. If desired the camera may be provided with facilities commonly available on video camera, for example a zoom lens system.

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There now follow detailed descriptions to be read with reference to the accompanying drawings, of three amusement ride apparatuses embodying the invention. It will be realised that these apparatuses have been selected for description to illustrate the invention by way of example.

25

In the accompanying drawings:-

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Figure 1 is a diagrammatic side view showing first apparatus

embodying the invention;

Figure 2 is a perspective view showing second apparatus embodying the invention; and

Figure 3 is a perspective view showing third apparatus embodying the invention.

In the drawings like reference characters indicate like parts.

Referring first to Figure 1, the first illustrative amusement ride apparatus comprises a base (10), a carriage (12) by which a rider may be carried, the carriage (12) being mounted on the base for movement relative to the base, and camera means (14) mounted on the carriage (12) for operation by a rider. The base (10) includes four feet (16) which normally rest on the ground and provide a substantial support for the illustrative apparatus. Castors (18) are provided at a rear edge portion of the base so that the base (10) may be tilted to rest on the castors for manoeuvring the first illustrative apparatus to a different position. However, if desired, the base may be fixed to the ground, or to any other suitable support surface.

20

A support arm (20) is pivotally mounted at one end portion on the base (10) for movement about an axis A as indicated by the arrow B. Pivotal movement of the arm A is suitably affected by means of a hydraulic ram or other hydraulic motor (not shown) which may be accommodated in a housing (22) of the base. The housing (22) may also accommodate a reservoir for hydraulic fluid and a small electric motor for operating a pump (also mounted in the housing) to generate hydraulic pressure.

30

The carriage (12) is carried at the opposite end portion of the arm

(20) to the axis A by any suitable means, for example a parallel linkage whereby the carriage (12) remains substantially parallel with the base (10) during pivotal movement of the arm (20). The carriage (12) is supported on the arm (20) via a platform (24) mounted at the end portion of the arm on which the carriage (12) is supported for rotation about an axis X generally perpendicular to the base (10) and which is normally disposed substantially vertically in use of the first illustrative apparatus. The carriage (12) may be rotated about the axis X by means of a hydraulic motor (not shown) powered by hydraulic fluid delivered to the motor through pipe means carried by the arm (20).

The carriage (12) comprises a seat (26) on which a rider may sit and a platform portion (28) on which the feet of a rider may rest and from which projects upwardly a pedestal (30) on which the camera means (14) is mounted. The camera means is mounted on the pedestal (30) for rotational movement about an axis Y parallel with the axis X, under the control of a rider sitting on the seat (26). The camera means (14) is positioned at a suitable height for operation for a rider sitting upon the seat (26) but may, if desired, include means for adjusting the height of the camera means (14) relative to the platform (28) so that the position of the camera means (14) can readily be adjusted to suit users of different heights. As well as being mounted for rotation about the axis X, the camera means (14) may be also be tilted about an axis Z generally parallel with the axis A and perpendicular to the axis Y, so that the camera may be directed by the rider toward any suitable target, an image of which is to be received by the camera means (14).

The camera means (14) consists of a housing (32), designed to simulate a film or movie recording camera of the type used in film studios within which is mounted an actual camera (not shown) of much smaller

and cheaper construction by which pictures may be taken by the rider. The actual camera is suitably a surveillance camera of the type which may be mounted for surveillance of premises and desirably includes a zoom lens. The camera may deliver images to a small video screen carried by the housing (32) for viewing by the rider, or elsewhere, and/or the images
5 may be recorded by a video recorder which may be mounted on the carriage (12) or elsewhere in the apparatus, for example in the base housing (22) or in the camera housing (32).

10 Instead of the surveillance camera included within the first illustrative apparatus, the camera means (14) may mount within the housing (32) other types of camera, for example a still photographic camera which may deliver series of still photographs; suitably where the camera means includes a still camera, this is of the instant picture variety.

15

 The first illustrative apparatus also comprises control means (34) operable by a rider whereby to control movement of the carriage (12) about the axis X and in height pivoting the arm (20) about the axis A. The control means (34) may also conveniently comprise means for
20 operating the camera.

 The illustrative apparatus further comprises means to actuate and terminate operation of the apparatus, to control the start and finish of a period of use of the illustrative apparatus. This means to actuate and
25 terminate the operation of the illustrative apparatus is not shown but may be of construction known to those skilled in the art, actuated by presentation of a coin, token or programmed card (which may be a special card explicitly associated with the apparatus or may be a credit or charge card issued by one of the credit card companies or a bank, or any other
30 data bearing card recognised by the apparatus.

In the use of the first illustrative apparatus, a rider first inserts coins or tokens, or an appropriately programmed card, in the presentation slot (not shown) of the illustrative apparatus. The slot may be on a separate pedestal adjacent the illustrative apparatus or may, for example, be positioned in the housing (22) or in the carriage (12) or indeed in the camera means (14). When the appropriate coin, token or card has been presented to the apparatus, the first illustrative apparatus is in a condition ready to start a ride. The actual ride is initiated by the rider by operation of an appropriate start means, for example a start button, which may be adjacent the control means (34). Once the start button has been actuated, the control means becomes active and the control means (34) may be used to move the carriage (26) relative to the base (10) by swinging of the arm (20) about the axis A or rotation of the carriage (26) about the axis X. The camera is operated by the rider at the same time and may be moved about the axes Y and Z, to point the camera at an appropriate scene, the image of which is to be received by the camera.

In the illustrative apparatus, the ride continues until a prepaid period of time has elapsed. However, other systems may be used to determine the length of the ride, for example where a video recording is to be made from the camera or a series of still photographs can be shot, the ride may continue until the video tape in a pre-provided cassette has been used or until a certain number of still photographs have been taken, subject to an overall time limitation which, when it has elapsed, will terminate operation of the illustrative apparatus.

The control means (34) may include, in addition to the various controls mentioned above, a switch by which the system may be switched to operate in an automatic mode. When the switch is set to operate the apparatus in an automatic mode, the carriage is moved about the axis A

and rotated about the axis X in a pre-programmed sequence by computer means which may conveniently be mounted on the carriage (12) in the housing (22) or within the housing (32). This makes the movement of the carriage (12) unpredictable and thus the skill of the rider in keeping the camera means (14) trained upon a selected target can be tested.

The computer means of the illustrative apparatus may also supply information (for example by audio means or to a video monitor), instructions, visual effects, sound effects or may provide a playback feature or control recording means.

In the first illustrative apparatus the control means (34) comprises a number of buttons and levers by which the switches controlling the various operations may be operated. However, the control means may comprise any other suitable equipment, for example a joy stick control or a touch screen control system.

Whereas in the first illustrative apparatus, all of the control means (34) are mounted on the camera housing (32), it will be appreciated that the control means may be mounted adjacent the camera means (14), for example on a console adjacent the seat (26), or in any other convenient position.

Whereas in the first illustrative apparatus motion is by pivoting the arm (20) and rotating the carriage (12), it will be understood that by suitably mounting the carriage (12) other motions may be imparted to it. For example, instead of being rotatable only about the axis X, the carriage may in addition be tiltable about two mutually perpendicular axes also perpendicular to the axis X; the housing (22) may be rotatable about a vertical axis to rotate the whole arm and carriage assembly, or means

Jack

other than the arm (20) may be used to vary the height of the carriage.
Other forms of motion can be devised, also.

The second illustrated apparatus is shown in Figure. 2 and the
5 construction and operation of the second illustrated is generally similar to
that of the first illustrative, except as hereinafter described. It will be
appreciated that the various positioning of control means etc and other
variations, referred in connection with the first illustrative apparatus, may
likewise be practised in connection with the second and third illustrative
10 apparatuses.

In the second illustrative apparatus, the camera means (14) is not
mounted on a pedestal (30) projecting upwardly from the platform (28)
but, instead, is mounted from a low plinth (38) at a front edge portion at
15 the carriage (12) remote from the seat (26). An arm (40) is mounted on
pivot means (42) for pivotal movement about an axis D parallel with the
base (10). The camera means (14) is mounted by bearing means (44) at
the opposite end of the arm (40) for pivotal movement about an axis E
parallel with the axis D. The camera means (14) is also mounted for
20 rotational movement about an axis F perpendicular to the axis E.

The third illustrative apparatus is likewise generally similar in
construction and operation to the first illustrative apparatus, except that the
camera means is suspended from an overhead cantilever arrangement (50).
25 The camera means (14) is suspended from a bush (52) so that it can be
swung about an axis G to allow access of a rider (48) to the seat (26). A
support rod (56) suspended from the bush (52) and supports the camera
housing (32) through a swivel (54) so that the camera housing (32) can be
rotated about a swivel axis H. The camera housing (32) is mounted to the
30 swivel (54) by pivot means so that it can be pivoted about an axis K

parallel with the axis G and perpendicular to the axis H.

5 In all three illustrative apparatuses, the camera means is so constructed and arranged that it will remain in a position to which it has been moved, unless displaced by the rider. Alternatively, the camera means (14) may be biased so that in the absence of any control exerted by a rider (48), the camera means (14) will tend to return to a position in which it is directed forwardly along a front to rear axis of the illustrative apparatus, and substantially horizontally.

CLAIMS

1. Amusement ride apparatus comprising a base, a carriage by which a rider may carried mounted on the base for movement relative to the base, and camera means mounted on the carriage for operation by the rider.
5
2. Apparatus according to Claim 1 comprising means to control operation of the apparatus actuated by presentation of a coin, token or programmed card to the apparatus.
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3. Apparatus according to either one of Claims 1 and 2 wherein the carriage is mounted for rotation at an end portion of an arm, an opposite end portion of which is pivotally mounted on the base for movement to raise or lower the carriage.
15
4. Apparatus according to any one of Claims 1 to 3 comprising control means by which movement of the carriage is controlled according to a predetermined sequence.
20
5. Apparatus according to any one of the preceding claims comprising control means operable by a rider whereby to control movement of the carriage.
- 25 6. Apparatus according to Claim 5 wherein the control means are disposed, on or adjacent, the camera means.
7. Apparatus according to any one of the preceding claims wherein the camera means is mounted on the carriage for movement relative to the carriage.
30

8. Apparatus according to any one of the preceding claims wherein the carriage comprises a seat for the rider and a safety belt to militate against the rider accidentally falling from the seat.

5 9. Apparatus according to any one of the preceding claims wherein camera means comprises a camera mounted within a housing simulating a movie recording camera.

10. Apparatus constructed arranged and adapted to operate substantially
10 as hereinbefore described with reference to the accompanying drawings.

Patents Act 1977
 Examiner's report to the Comptroller under Section 17
 (The Search report)

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Application number
 9423350.9

Relevant Technical Fields

(i) UK Cl (Ed.M) A6M (MDX, MEE, MEF, MEX)

(ii) Int Cl (Ed.5) A63G (19/00, 19/20, 31/00, 31/02, 31/06)

Databases (see below)

(i) UK Patent Office collections of GB, EP, WO and US patent specifications.

(ii) ONLINE DATABASES: WPI

Search Examiner
 MR A T BLUNT

Date of completion of Search
 21 DECEMBER 1994

Documents considered relevant
 following a search in respect of
 Claims :-
 1 TO 10

Categories of documents

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